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## Erechthiinae (Lepidoptera, Tineidae) of Japan

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**Abstract** The Japanese erechthiine moths are revised to include seven species. Five species belong to *Erechthias*: *E. itoi* sp. n., *E. atririvis* (MEYRICK), *E. sphenoschista* (MEYRICK), comb. n., *E. zebrina* (BUTLER) and *E. iolaxa* (MEYRICK), comb. n.; two to *Comodica*: *C. saitoi* sp. n. and *C. contributa* (MEYRICK), comb. n. *Comodica* and *E. zebrina* are new to the fauna of Japan. The male and female genitalia of three previously described species (i.e., *atririvis*, *sphenoschista* and *contributa*) are illustrated for the first time. The larva and pupa of *E. atririvis* are described. A key is provided to the erechthiine species of Japan.

**Key words:** Tineidae; Erechthiinae; *Erechthias*; *Comodica*; new species; Japan.

The tineid subfamily Erechthiinae containing two genera is overwhelmingly a tropical group, and the species diversity is concentrated in the Australasian region and the Pacific islands; the northern limit of distribution is Japan (ROBINSON & NIELSEN, 1993).

In the present paper, a taxonomic account is given of the Japanese species of Erechthiinae. MORIUTI (1982) enumerated five erechthiine species in the Japanese list. One of them was *Thermocrates epischista* MEYRICK, and the remaining four were referable to *Decadarchis*. *T. epischista* was transferred to the dryadauline genus *Dryadaula* by ROBINSON (1988), because he sank *Thermocrates* MEYRICK as a junior synonym of *Dryadaula* MEYRICK. *Decadarchis* MEYRICK was synonymized with *Erechthias* MEYRICK by ROBINSON (1983). The four Japanese species included in *Decadarchis* in question are dealt with in this paper as follows: *Erechthias atririvis* (MEYRICK), *E. sphenoschista* (MEYRICK), comb. n., *E. iolaxa* (MEYRICK), comb. n., and *Comodica contributa* (MEYRICK), comb. n. Besides them, three other species are added here: *E. zebrina* (MEYRICK) and two new species, one belonging to *Erechthias* and the other to *Comodica*. We take this opportunity of describing the larva and pupa of *E. atririvis*.

In the description the forewing and hindwing indices used are after ROBINSON & NIELSEN (1993). The nomenclature used for the larval setae is that of HINTON (1946).

All the specimens examined are deposited in the Entomological Laboratory, University of Osaka Prefecture, Sakai, abbreviated hereafter as UOP.

Before going further, we are thankful to Dr. T. SAITO, Ikeda in Osaka, Prof. Y. ARITA, Meijo University, and Dr. S. YOSHIMATSU, National Institute of Agro-Environmental Sciences, for their generous assistance in materials. One of us (T.

K.) also thanks Prof. T. YASUDA and Dr. T. HIROWATARI, both of the UOP, for encouragement throughout the study. Last but not least, the photographs of genitalia used in Figs. 21–36 were taken by Dr. F. KOMAI, Osaka University of Arts, to whom we are grateful for his kind help.

### Erechthiinae MEYRICK

Erechthiadae MEYRICK, 1880: 206. Type genus: *Erechthias* MEYRICK, 1880.

The diagnosis is given by ROBINSON & NIELSEN (1993).

The following characters are common to Japanese erechthiine species treated in this paper. Male antenna (Figs. 14, 15) unmodified. Labial palpus with or without spreading tuft of hairs. Forewing (Figs. 8–13) with apex upturned or not; 12-, 11- (by two-branched media) or 10-veined (further, by coincidence of  $R_4$  and  $R_5$ ). Hindwing (Figs. 8–13) 8-veined;  $M_1$  and  $M_2$  separate in *Comodica* or long-stalked in *Erechthias*. In male abdomen (Figs. 16, 18, 19) second sternum with a pair of hair pencils in *Comodica*; in *Erechthias* pleural membrane between second and third segments with or without hair pencil; coremata present or absent. Male genitalia (Figs. 21–26) with juxta forming a deep pouch; valva simple or produced into a dorsal process; vinculum with large saccus; aedeagus simple or denticulated; cornuti distinct or indistinct. Female genitalia (Figs. 27–36) with lamella postvaginalis simple; signum usually present.

In the larval characters of the Erechthiinae, ROBINSON & NIELSEN (1993) reported that the labrum appears to have lost one of the pairs of marginal setae on the upper surface. However, the labrum of *E. atririvis* which we have examined has an ordinary setal pattern, as shown in Fig. 39.

As for the Japanese species, the erechthiine larvae feed on dead or decayed tree and on bark of living tree. They also are associated with canker on living *Sophora japonica* L. caused by *Uromyces truncicola* P. HENN. et SHIRAI (YOSHIMATSU, 1992).

### Key to Genera and Species of Japanese Erechthiinae

1. Hindwing with  $M_1$  and  $M_2$  separate (Figs. 12, 13) ..... *Comodica* MEYRICK, 2
- Hindwing with  $M_1$  and  $M_2$  stalked (Figs. 8–11) ..... *Erechthias* MEYRICK, 3
2. Head with crown white, somewhat mixed with grey ..... *C. saitoi* sp. n.
- Head with crown pure white ..... *C. contributa* (MEYRICK)
3. Wing-expanse 8 mm or less ..... 4
- Wing-expanse 12 mm (rarely 10 mm) or more ..... 5
4. Labial palpus tufted beneath; forewing with a distinct black second discal stigma (Fig. 5) ..... *E. iolaxa* (MEYRICK)
- Labial palpus not tufted; forewing without second discal stigma (Fig. 4) ..... *E. zebrina* (MEYRICK)

5. Labial palpus without spreading tuft of hairs; forewing with 12 veins; hindwing with  $M_1$  to apex (Fig. 8) ..... *E. itoi* sp. n.  
 — Labial palpus with spreading tuft of hairs; forewing with 10 veins; hindwing with  $M_1$  to costa (Figs. 9, 10) ..... 6  
 6. Forewing with a longitudinal blackish streak in disc (Fig. 2) .....  
 ..... *E. atririvis* (MEYRICK)  
 — Forewing without a longitudinal streak in disc (Fig. 3) .....  
 ..... *E. sphenoschista* (MEYRICK)

### *Erechthias* MEYRICK

*Erechthias* MEYRICK, 1880: 216. Type species: *Erechthias charadrota* MEYRICK, 1880.

Synonyms: *Ereunetis* MEYRICK, 1880; *Decadarchis* MEYRICK, 1886; *Hectacma* MEYRICK, 1915; *Nesoxena* MEYRICK, 1929; *Amphisyncentris* MEYRICK, 1933; *Gongylodes* TURNER, 1933; *Caryolestis* MEYRICK, 1934; *Triadogona* MEYRICK, 1937; *Anemerarcha* MEYRICK, 1937; *Empaesta* BRADLEY, 1956; *Tinexotaxa* GOZMÁNY, 1968; *Acrocenotes* DIAKONOFF, 1968; *Neodecadarchis* ZIMMERMAN, 1978; *Lepidobregma* ZIMMERMAN, 1978; *Pantheus* ZIMMERMAN, 1978. (For details see ROBINSON, 1983, and ROBINSON & NIELSEN, 1993.)

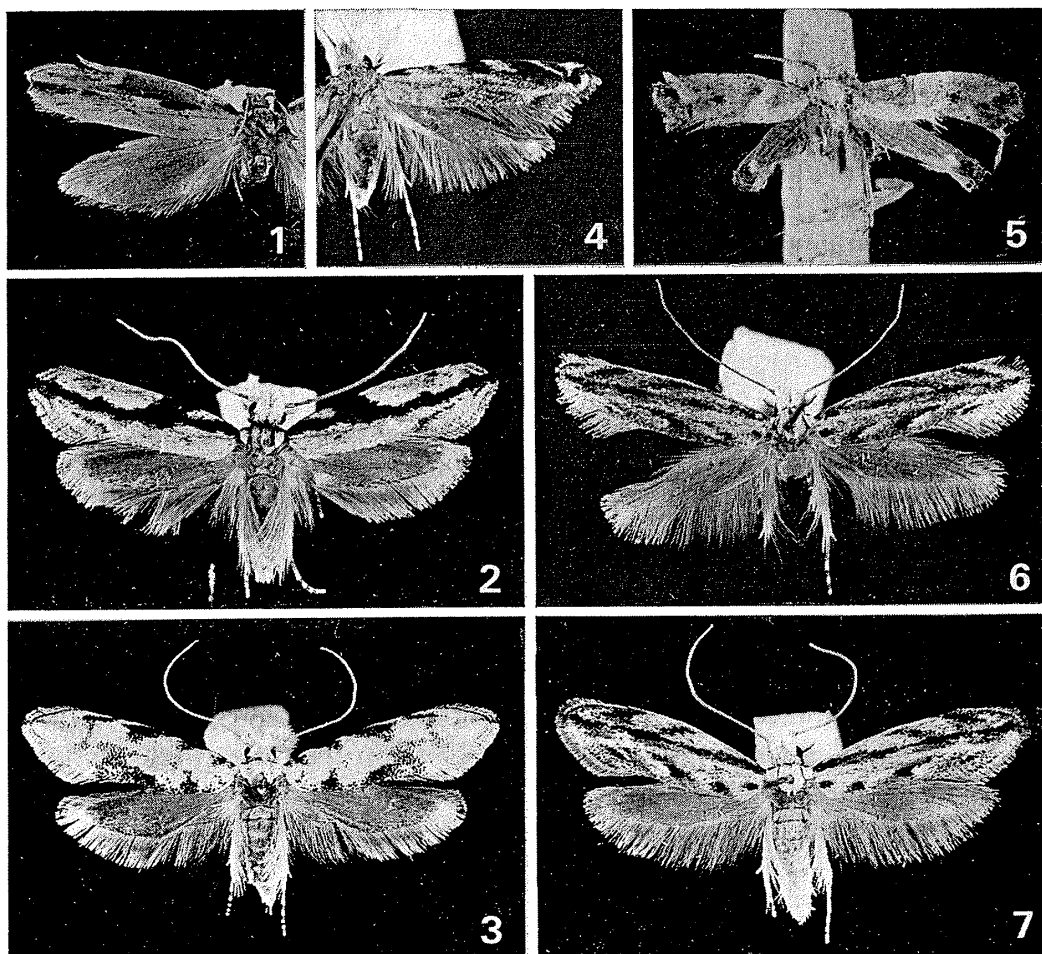
Defined by ROBINSON & NIELSEN (1993). This genus is very closely allied to *Comodica* in appearance as well as in genitalia, but differs sharply from it in the second abdominal sternum without the hair pencils in the male (Figs. 16, 18) and with the much longer apodemes in both sexes (Figs. 16–18).

### *Erechthias itoi* sp. n.

(Figs. 1, 8, 21, 31, 32)

Described from rubbed specimens. ♂, 16 mm; ♀, 21 mm. Head and thorax whitish, tinged with ochre; tegula dark fuscous at base. Antenna without subbasal notch; pale greyish-ochreous; scape fuscous. Labial palpus without spreading tuft; fuscous outside and very pale ochreous inside. Legs sandy; fore leg suffused with dark brown. Forewing (Figs. 1, 8) with 12 veins;  $R_1$  from one-seventh,  $R_5$  curved upwards before costa, and  $M_1$  curved downwards before termen and closely approximated to  $M_2$  on margin; pale ochreous, suffused with greyish-brown; extreme costal edge dark grey towards base; a small blackish spot on costa before base; a broad, longitudinally placed, interrupted blackish streak in disc from just before base to apex; costa with a blackish spot at three-fourths; (cilia missing). Hindwing with three frenular bristles in female; eight-veined;  $M_1$  to apex; pale greyish-ochreous; cilia concolorous (imperfect). Abdomen: colour not observed; presence of both the hair pencils in pleural membrane between second and third segments in male and the coremata on eighth segment in male not ascertained, because of a failure in the abdominal preparation.

Genitalia: ♂ as in Fig. 21. Uncus forming elongate lobes. Valva well-developed dorsal process, densely clothed with spines. Aedeagus armed with a row



Figs. 1-7. Adu ts. — 1, *Erechthias itoi* sp. n., paratype, ♀; 2, *E. atririvis* (MEYRICK), ♀; 3, *E. sphenoschista* (MEYRICK), ♀; 4, *E. zebrina* (MEYRICK), ♂; 5, *E. iolaxa* (MEYRICK), ♂; 6, *Comodica saitoi* sp. n., paratype, ♀; 7, *C. contributa* (MEYRICK), ♀.

of denticles on apical sixth; cornuti consisting of a cluster of 10 distinct spines. ♀ as in Figs. 31 and 32. Antrum weakly sclerotized. Ductus bursae sclerotized in posterior half. Signum absent.

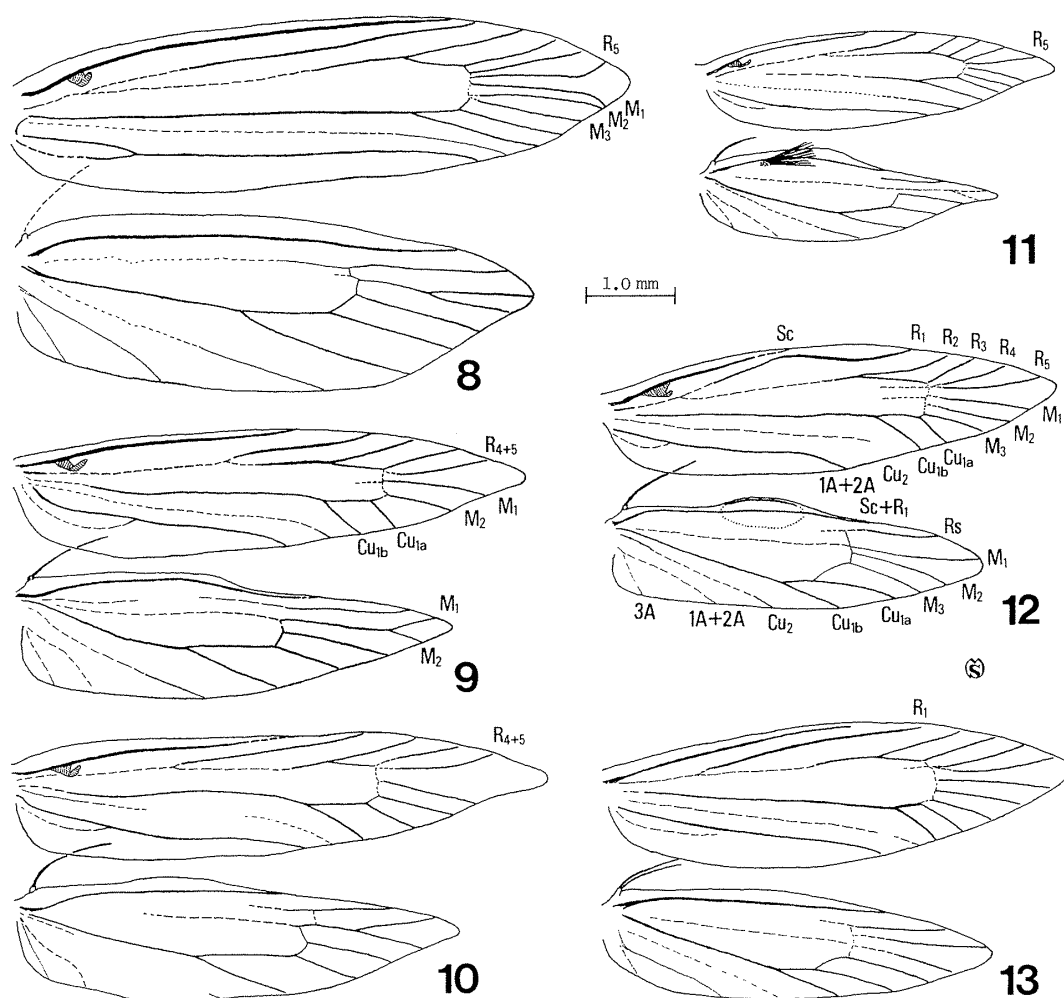
*Material examined.* Holotype ♂, Ogasawara Islands, Titizima Is., Oomura, 30. V. 1971 (S. Ito), UOP. Paratype: 1 ♀, same data with holotype, UOP.

*Distribution.* Japan (Ogasawara Is.).

*Host.* Unknown.

*Remarks.* This large species is characterized by the aedeagus with the dentate apical part and with a cluster of 10 distinct cornuti.

*Etymology.* This species is named after the collector, Prof. Syusiro Ito, already retired from the UOP.



Figs. 8–13. Wing venation. — 8, *Erechthias itoi* sp. n., holotype, ♂; 9, *E. atririvis* (MEYRICK), ♂; 10, *E. sphenoschista* (MEYRICK), ♂; 11, *E. zebrina* (MEYRICK), ♂; 12, *Comodica saitoi* sp. n., paratype, ♂; 13, *do.*, paratype, ♀. All drawn to the same scale.

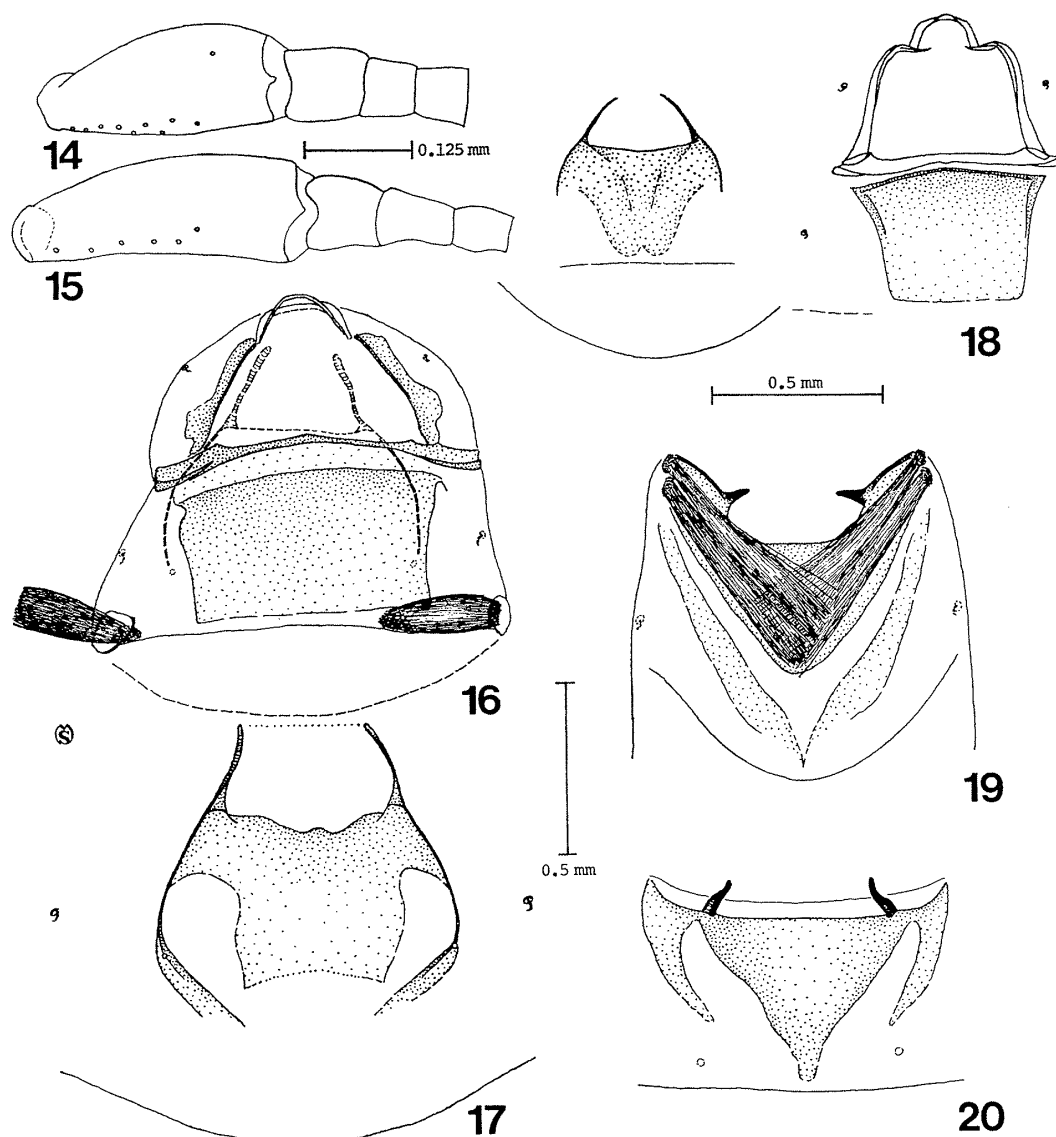
### *Erechthias atririvis* (MEYRICK)

(Figs. 2, 9, 14, 16, 17, 23, 27, 33, 37–51)

*Decadarchis atririvis* MEYRICK, 1931: 166; ISSIKI, 1950: 443, fig. 1191; ISSIKI, 1957: 15, pl. 2, fig. 52; OKANO, 1959: 275, pl. 182, fig. 18; MORIUTI, 1982: pl. 2, figs. 23, 24, pl. 237, fig. 1; PARK, 1983: 56; AZUMA & KINJO, 1987: 74; YOSHIMATSU & SAKAMOTO, 1991: 99, figs. 1–5; YOSHIMATSU, 1992: 779, figs. 1–4, 6, 14.

*Erechthias atririvis* (MEYRICK); DAVIS, 1992: 64.

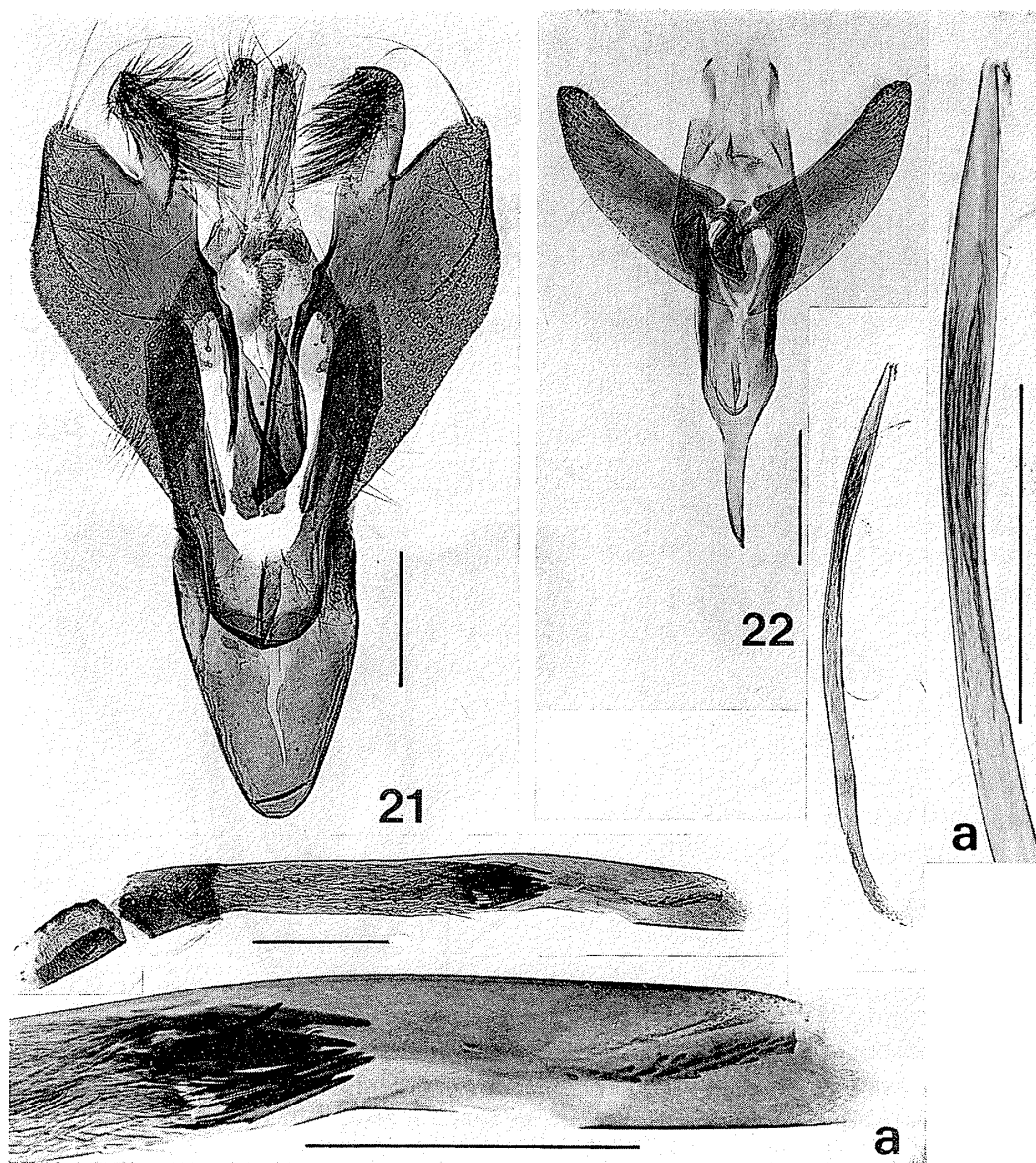
♂♀. 12–19 mm (rarely 10 mm in ♂). Illustrated in colour by ISSIKI (1957) and MORIUTI (1982). Labial palpus with spreading tuft of scales. Both wings of male notably narrower than those of female. Male with forewing and hindwing indices of 0.23–0.24 and 0.29–0.30 ( $n=4$ ), and female with those of 0.28–0.30 and



Figs. 14–20. Antennae and abdomens, denuded. — 14, *Erechthias atrivivis* (MEYRICK), ♂, antennal base; 15, *Comodica saitoi* sp. n., paratype, ♂, antennal base; 16, *E. sphenoschista* (MEYRICK), ♂, abdominal base, dorsal view; 17, *do.*, ♀, second sternite; 18, *E. zebrina* (MEYRICK), ♂, abdominal base; 19, *C. contributa* (MEYRICK), ♂, second sternite; 20, *do.*, ♀, second sternite.

0.33–0.34 ( $n=5$ ). Male wings as shown in Fig. 9, and the female wings were figured by MORIUTI (1882). Forewing with 10 veins;  $R_1$  from a little beyond middle; ground-colour whitish, with blackish markings. Hindwing with two frenular bristles in female;  $M_1$  and  $M_2$  very long-stalked. Male abdomen with hair pencils in pleural membrane between second and third segments; coremata present.

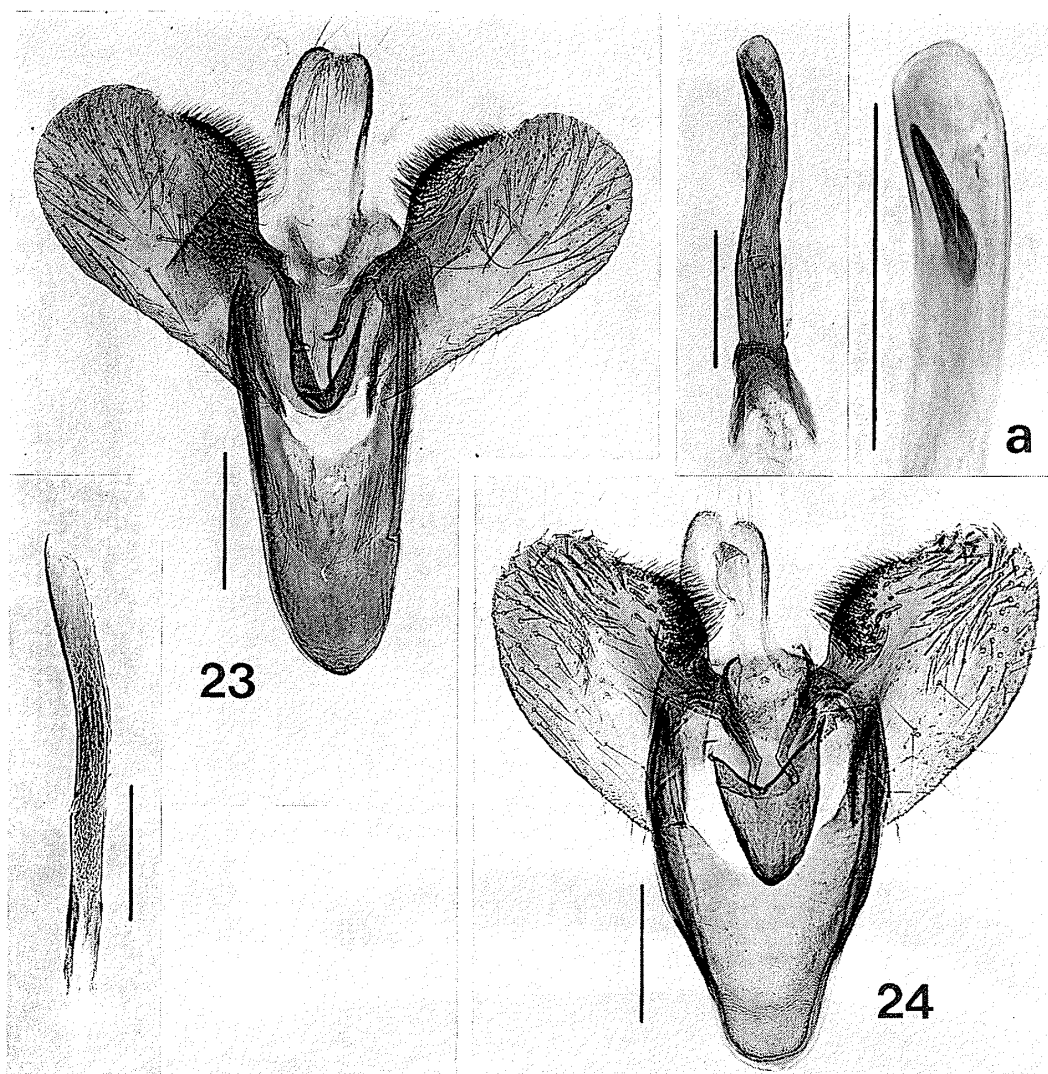
Genitalia: ♂ as in Fig. 23. Valva with dorsal margin strongly arched, armed



Figs. 21-22. Male genitalia. — 21, *Erechthias itoi* sp. n., holotype; 21a, aedeagus, apical part; 22, *E. zebrina* (MEYRICK); 22a, aedeagus, apical part. Scale bars 0.25 mm.

with spines. Saccus large. Aedeagus with spiculate cornuti. ♀ as in Figs. 27 and 33. Antrum membranous. Ductus bursae membranous throughout; corpus bursae rounded. Signum small.

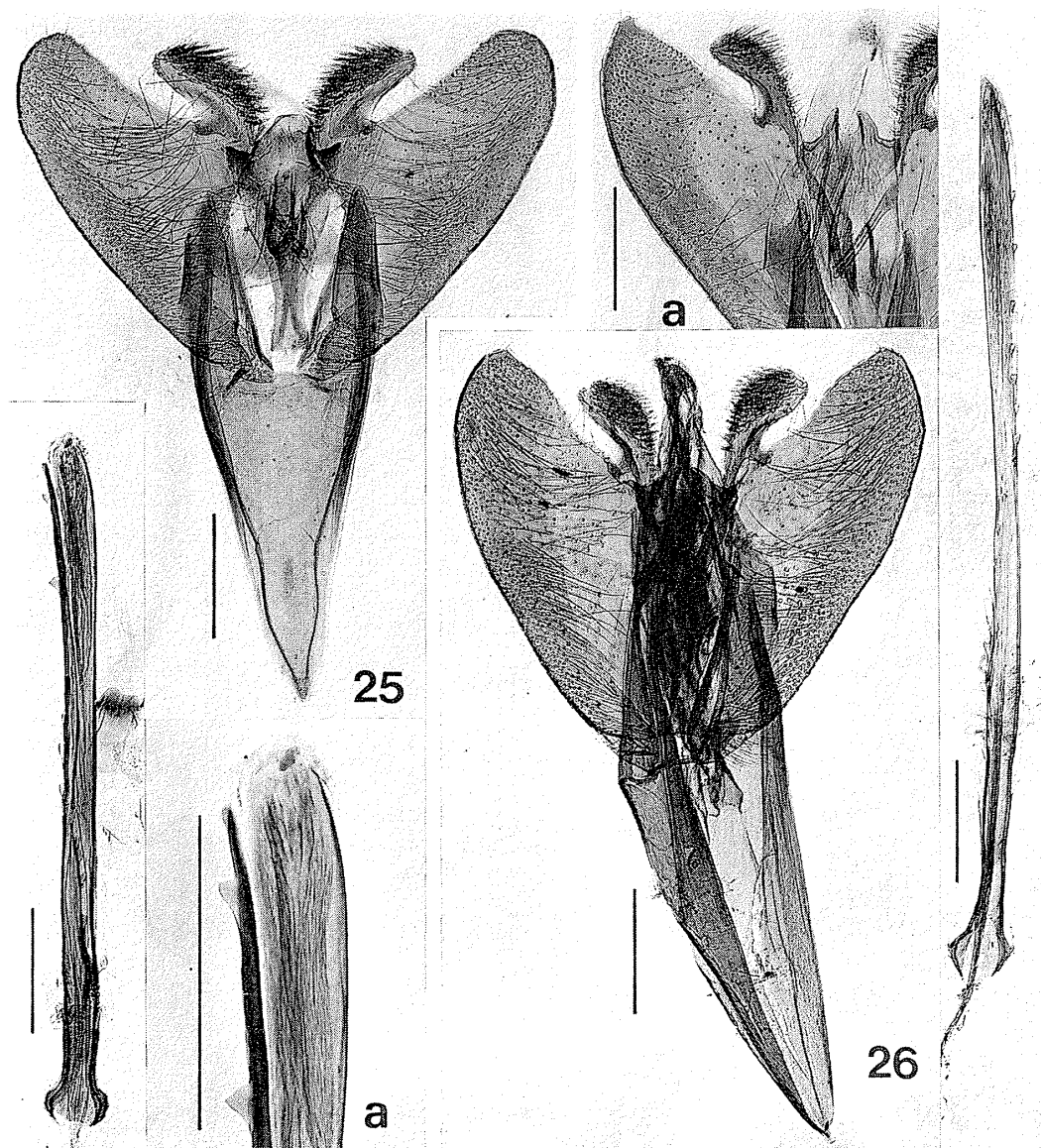
*Mature larva.* Average length 16 mm. (The colour description was made from alcoholized specimens.) Head ochreous-brown; nerve attachments of individual ocelli I-V black. Body nearly white; setae discoloured; thoracic pinacula brown or pale brown, and abdominal ones brownish; prothoracic shield brown; legs pale ochreous-brown, with claws brownish; peritreme of spiracles brown; anal



Figs. 23–24. Male genitalia. — 23, *Erechthias atririvis* (MEYRICK); 24, *E. sphenoschista* (MEYRICK); 24a, aedeagus, apical part. Scale bars 0.25 mm.

shield brownish. Head with fronto-clypeal apotome broad; each side with only five convex ocellar lenses and with sixth ocellus very vestigially preserved, as shown in Fig. 37. Labrum as illustrated in Fig. 39. Mandible as in Fig. 40. Prothoracic claw as in Fig. 41. Ventral prolegs (Figs. 42) with about 40–45 crochets, the ellipse being open on mesal side. Anal prolegs with about 20 crochets. Spiracles broadly oval; spiracle of eighth abdominal segment about twice as large as that of seventh and about as large as that of prothorax. Chaetotaxy: Head (Figs. 37, 38) with L1 near ocellus I; O3 close to SO3. Prothorax as shown in Fig. 43. Metathorax setose like mesothorax (Fig. 43). Abdomen with setae as shown in Figs. 44–47; SD2 minute, situated above SD1, without its own pinaculum.

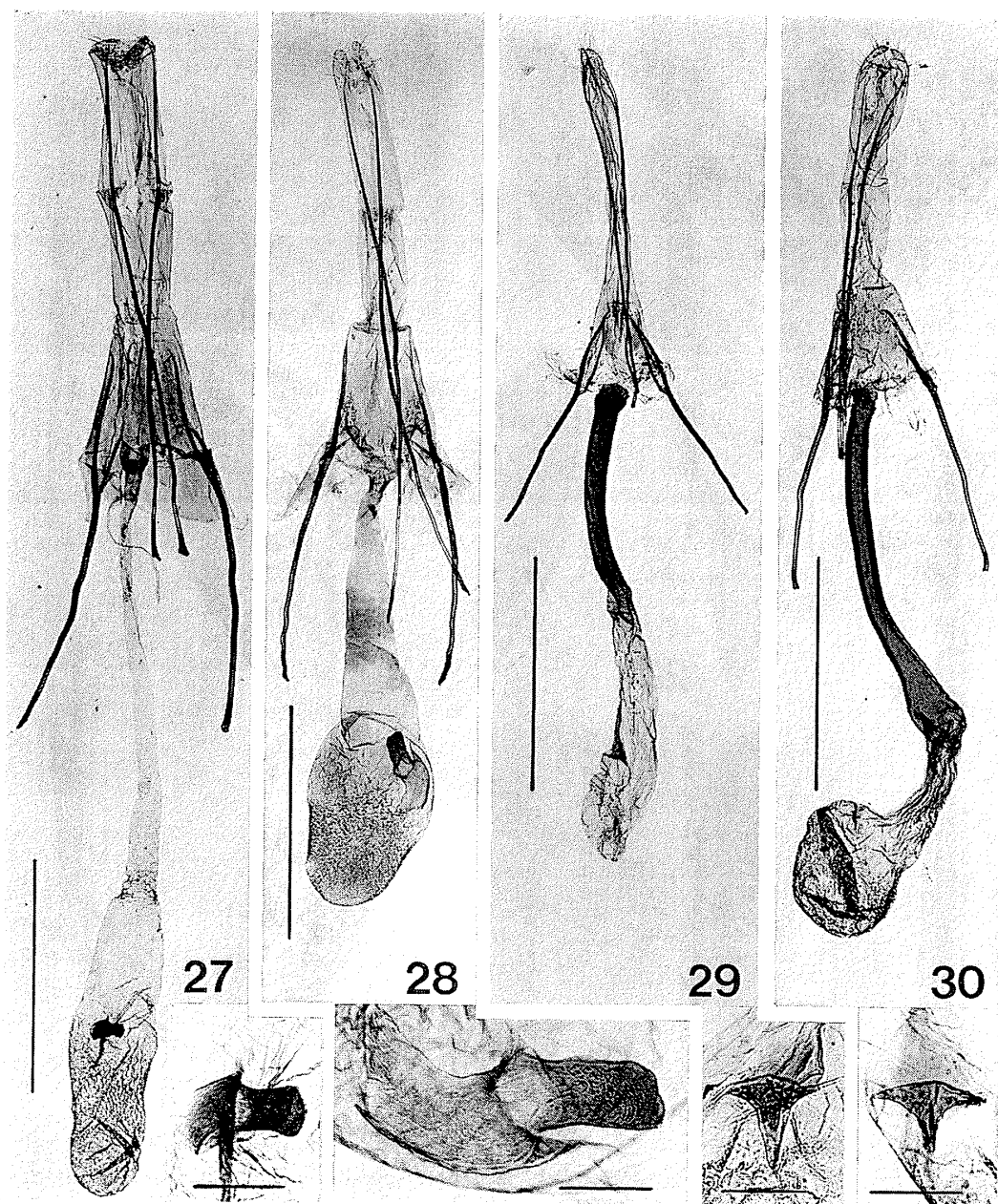
*Pupa.* ♀. Length 8–9 mm. Brown. Shape and arrangement of parts as illus-



Figs. 25–26. Male genitalia. — 25, *Comodica saitoi* sp. n., paratype; 25a, aedeagus, apical part; 26, *C. contributa* (MEYRICK); 26a, part showing caudal processes of juxta. Scale bars 0.25 mm.

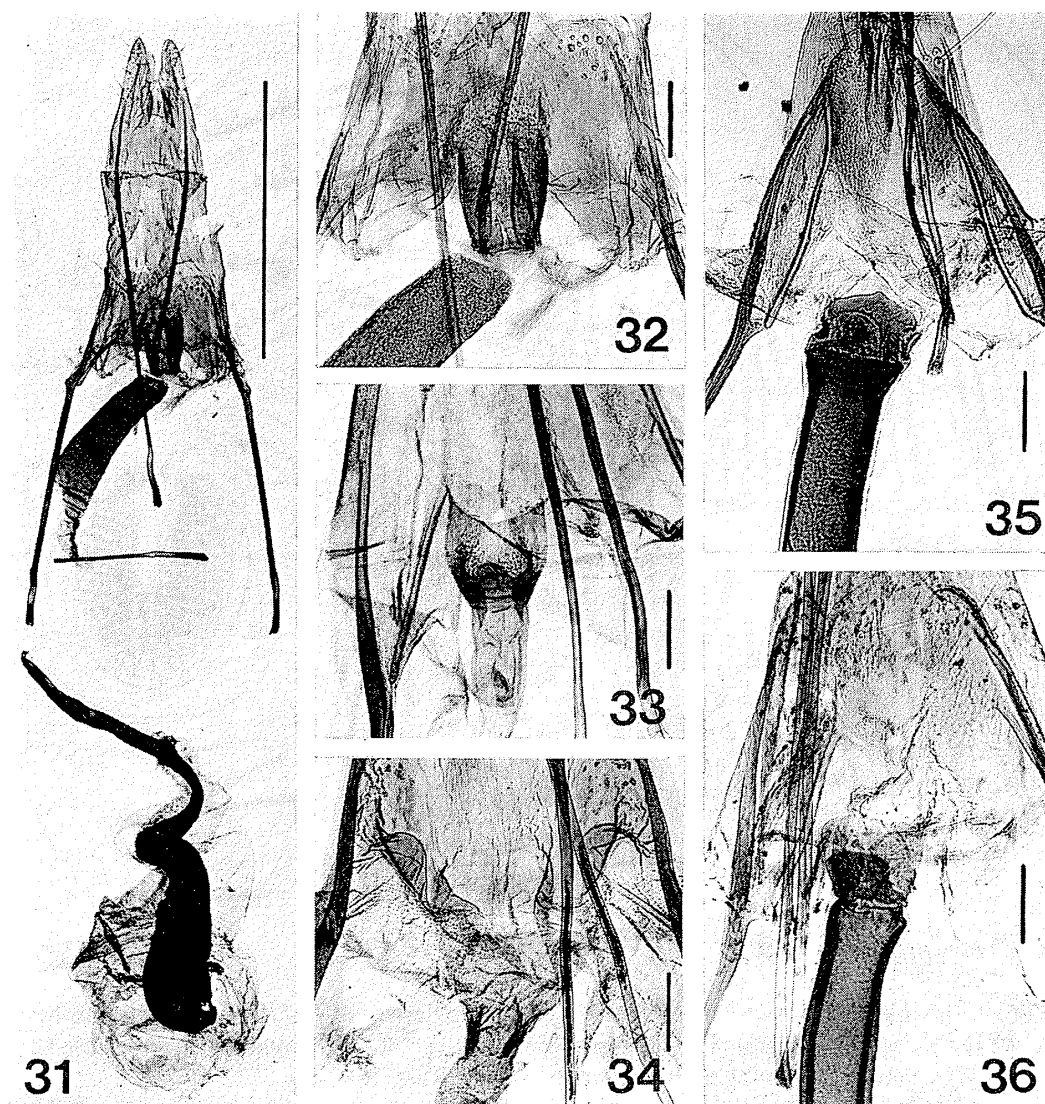
trated in Figs. 48–51. Metathoracic coxa not exposed. Proleg scars invisible. Eighth abdominal spiracle undeveloped as a short transverse bar. Third abdominal segment with two dorsal rows of vestigial spines; eighth segment with posterior row of spines scarcely visible. Ninth abdominal segment with a pair of small dorsal teeth; tenth segment (Fig. 48) with a pair of large ventral teeth and with a pair of strong caudal processes.

*Material examined.* Adults: Honsyû—2 ♂, 4 ♀, Ibaraki, Tukuba, Kannondai, emerged 18–28. VI. 1991 (S. YOSHIMATSU), reared from larvae feeding on cankers



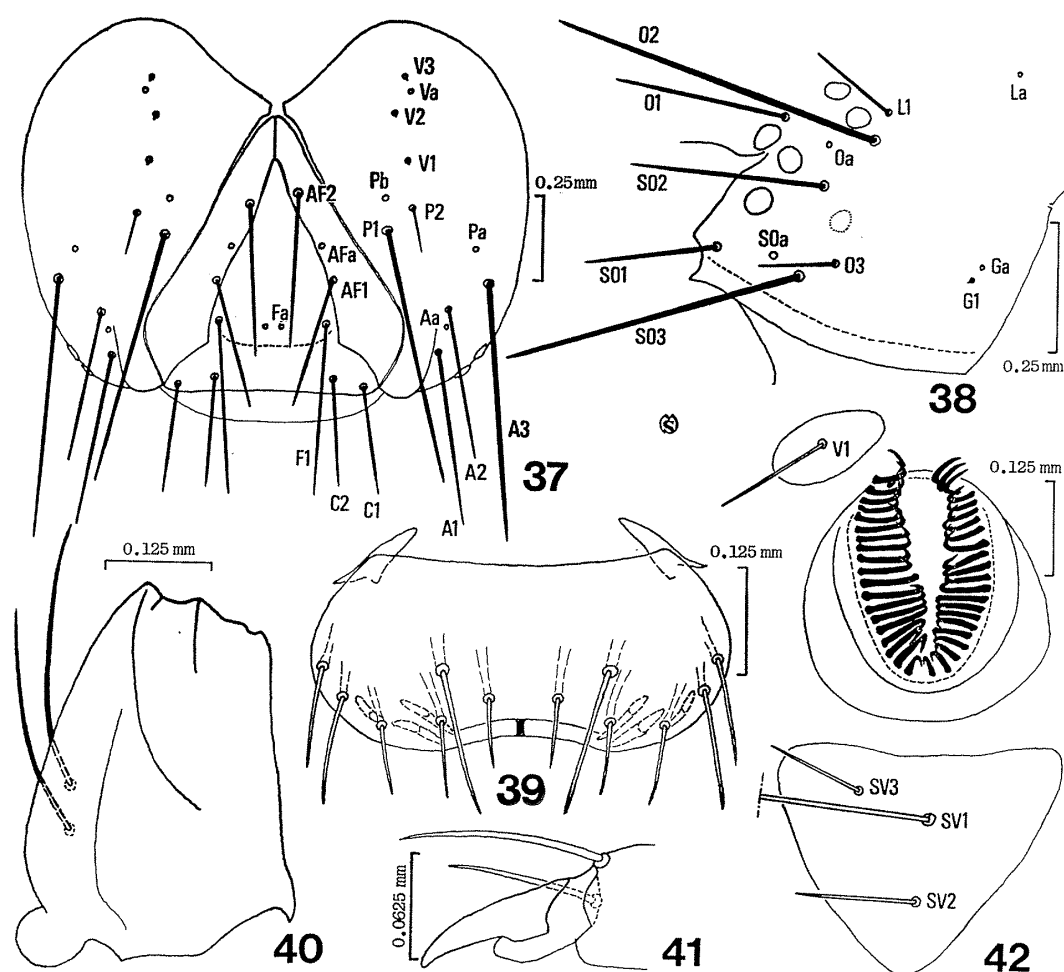
Figs. 27–30. Female genitalia and signa. — 27, *Erechthias atririvis* (MEYRICK); 28, *E. sphenoschista* (MEYRICK); 29, *Comodica saitoi* sp. n., paratype; 30, *C. contributa* (MEYRICK). Scale bars 1.0 mm (entire genitalia), 0.1 mm (signum).

of *Sophora japonica*; 2 ♂, 5 ♀, same data, except emerged 1–15. VII. 1992; 2 ♂, 2 ♀, same locality, emerged 29. VI.–1. VIII. 1993 (T. KADOHARA), reared from cankers of *S. japonica*; 1 ♀, Gunma, Maebasi, 6. VIII. 1968 (S. SHIMEKI); 1 ♀, same data, except 14. VIII. 1967; 1 ♂, Aiti, Kasugai, Takagi, emerged 30. VIII. 1982 (Y. ARITA), reared from larva feeding on bark of *Castanea arenata*; 1 ♀, same data, except emerged 18. XI. 1982; 1 ♂, Aiti, Nagoya, emerged 29. III. 1978 (Y. ARITA),



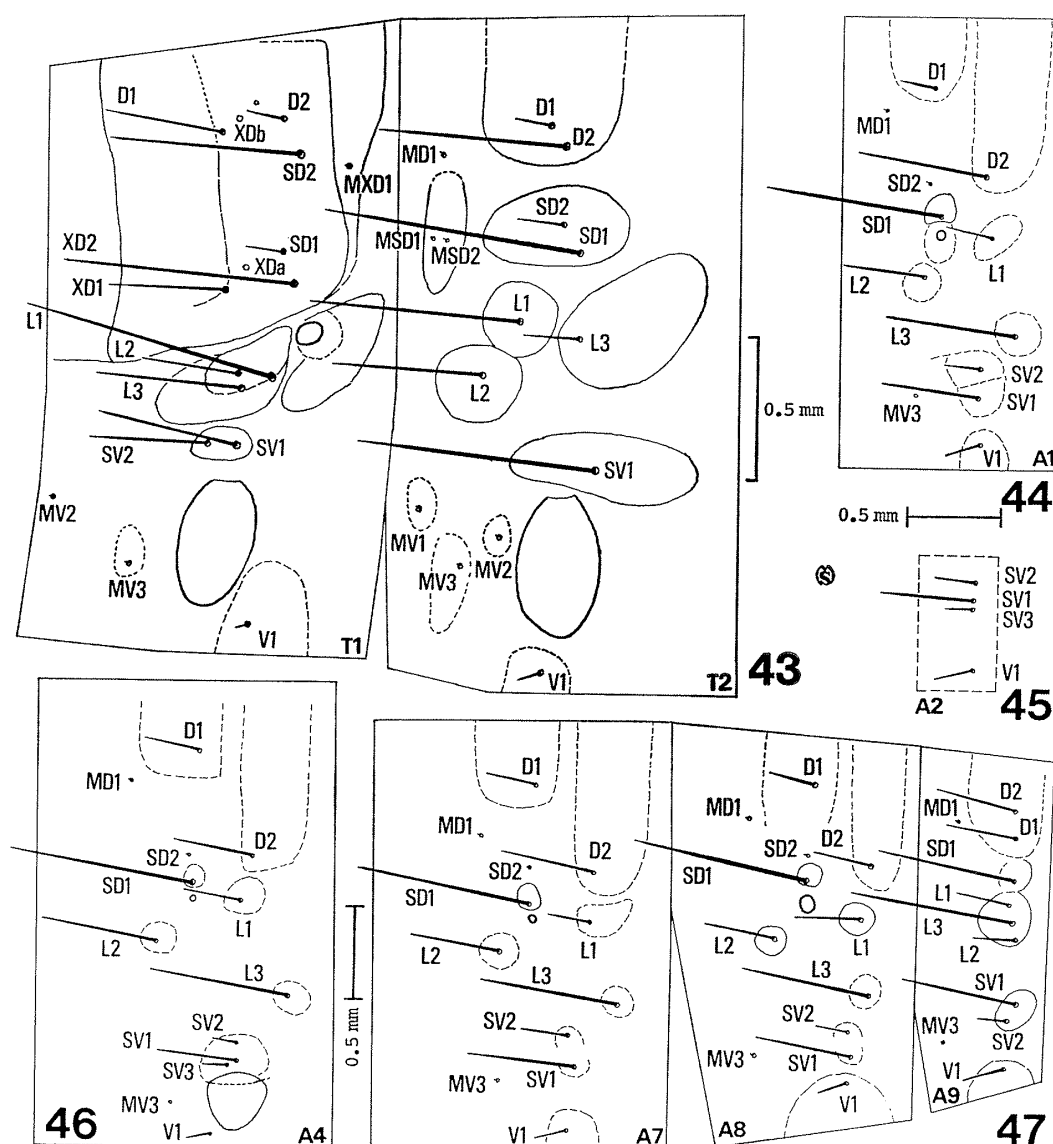
Figs. 31–36. Female genitalia. — 31, *Erechthias itoi* sp. n., paratype; 32–36, ostial parts; 32, *E. itoi*, paratype; 33, *E. atririvis* (MEYRICK); 34, *E. sphenoschista* (MEYRICK); 35, *Comodica saitoi* sp. n., paratype; 36, *C. contributa* (MEYRICK). Scale bars 1.0 mm (Fig. 31), 0.1 mm (Figs. 32–36).

reared from larva feeding on dead tree; 1 ♀, same data, except 13. IV. 1982; 1 ♂, Mie, Hakusan, 21. VIII. 1979 (T. SAITO); 1 ♀, Kyoto, Kibune, 22. VII. 1947 (A. MUTUURA); 1 ♀, Kyoto, 4. VIII. 1951 (K. TAKEUCHI), 1 ♂, Osaka, Minoo, 10. VII. 1978 (T. SAITO); 1 ♂, 1 ♀, Osaka, 20. VII. 1948 (K. TAKEUCHI); 1 ♂, 5 ♀, Osaka, Sakai, Daisentyô, 9. VII. 1965 (H. KUROKO); 2 ♂, 3 ♀, same locality, 14–15. VII. 1965 (S. MORIUTI); 1 ♂, 1 ♀, Osaka, Sakai, Mozu, emerged 29. VI. 1966 (H. KUROKO), reared from larvae feeding on dead branch of *Rhus succedanea*; 1 ♂, Osaka, Tondabayasi, Yamatetyô, 27. VII. 1977 (S. MORIUTI); 2 ♀, same data, ex-



Figs. 37–42. *Erechthias atririvis* (MEYRICK), mature larva. — 37, Head, dorsal aspect; 38, head, ocellar region; 39, labrum, dorsal aspect; 40, right mandible, mesal aspect; 41, prothoracic claw; 42, fourth abdominal, right, ventral proleg.

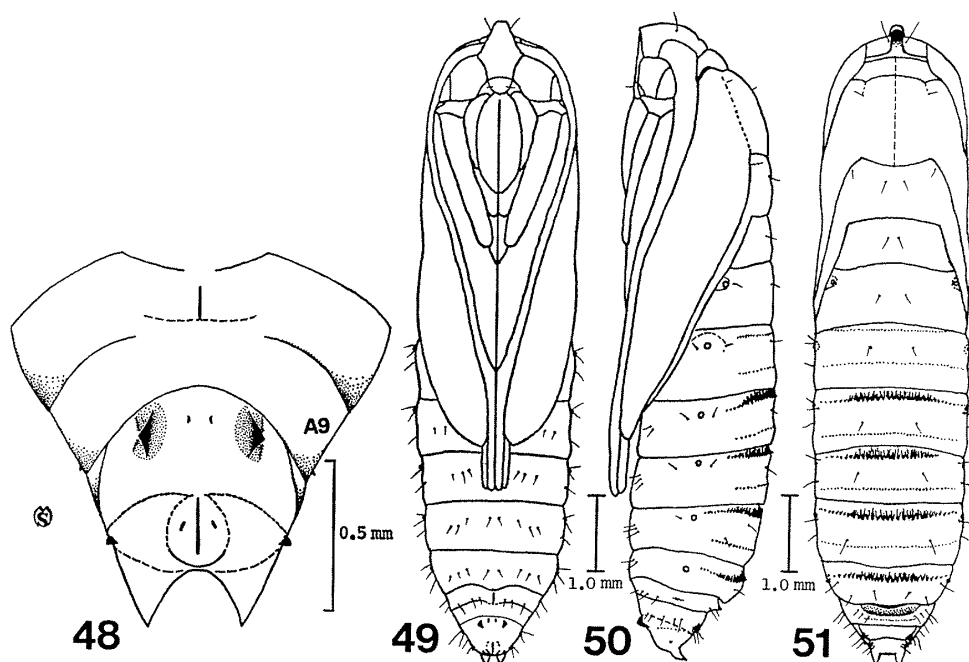
cept 20–29. VII. 1978; 1 ♀, same data, except 15. VIII. 1988; 1 ♀, Wakayama, Mt. Kôyasan, 17. VII. 1971 (K. YASUDA); Kyûsyû—1 ♀, Hukuoka, Yahata, Orio, 10. VII. 1961 (T. KAWAMURA); Ryukyus, Yaeyama-Rettô Islands—1 ♂, Isigakaizima Is., Kabira, emerged 1. VII. 1979 (T. SAITO), reared from larva feeding on dead branch of *Carica papaya*; 1 ♀, same is., Mt. Bannadake, emerged 6. II. 1981 (Y. ARITA), reared from larva feeding on decayed tree; 6 ♀, Iriomotezima Is., Mt. Komidake, emerged 20–31. V. 1978 (S. MORIUTI), reared from larvae feeding on decayed tree; 1 ♂, same is., Nakamagawa, 11. X. 1992 (T. HIROWATER); 1 ♀, same locality, 14. X. 1992 (T. KADOHARA). Mature larvae: 3 exs., feeding on cankers of *S. japonica*, Honsyû, Ibaraki, Tukuba, Kannondai (S. YOSHIMATSU), fixed on 7. VI. 1991. Pupae: 2 ♀, reared from larvae, Honsyu Ibaraki, Tukuba, Kannondai (S. YOSHIMATSU), fixed on 27. VI. 1990.



Figs. 43–47. *Erechthias atririvis* (MEYRICK), mature larva. — 43, Pro- and mesothorax; 44, first abdominal segment; 45, second abdominal segment, subventral and ventral setae; 46, fourth abdominal segment; 47, seventh–ninth abdominal segments.

*Distribution.* Japan (Honsyû, Sikoku, Kyûsyû, Ryukyus), Southern Korea, Taiwan.

*Biological notes.* So far as we are aware, the adults emerged from the following places on plants, on which the larvae fed: bark of *Castanea arenta* SIEBOLD et SIEBOLD et ZUCCARINI (Fagaceae), bark of *Prunus yedoensis* MATSUMURA (Rosaceae), canker of *Sophora japonica* L. (Leguminosae) caused by rust fungus, bark of *S. japonica*, bark of *Robinia pseudo-acacia* L. (Leguminosae), dead branch of *Rhus succedanea* L. (Anacarpdiaceae), and dead branch of *Carica papaya* L. (Caricaceae), and also



Figs. 48–51. *Erechthias atririvis* (MEYRICK), pupa, ♀. — 48, Caudal portion, ventro-caudal aspect; 49, ventral aspect; 50, lateral aspect; 51, dorsal aspect.

dead or decayed unidentified trees.

The larva makes a portable case composed of frass, lined with silk. Pupation takes place in the larval case. This species has one generation a year, but in the Ryukyu Islands may be bivoltine. Winter is passed in the larval stage. The moths emerge in the summer in Honsyū.

*Remarks.* This species is allied in genitalia to the next species, but the two species can be readily separated by the external and genital characters from each other.

This species is very common and widespread in Japan except in northern regions, though it is scarce in the present records.

***Erechthias sphenoschista* (MEYRICK), comb. n.**

(Figs. 3, 10, 24, 28, 34)

*Decadarchis sphenoschista* MEYRICK, 1931: 166; ISSIKI, 1957: 18, pl. 2, fig. 52; MORIUTI, 1982: 170, pl. 2, fig. 22; WATANABE, 1980: 37; YOSHIMATSU, 1992: 779, fig. 7.

♂♀. 14–17 mm. Illustrated in colour by ISSIKI (1957) and MORIUTI (1982). Labial palpus with large spreading tuft of scales. Forewing (Figs. 3, 10) with 10 veins;  $R_1$  from a little before middle; ground-colour white, with markings blackish and blackish-brown. Hindwing with three frenular bristles in female. Abdominal base as shown in Figs. 16 (♂) and 17 (♀); male with no coremata.

Genitalia: ♂ as in Fig. 24. Valva broad; dorsal margin strongly arched in middle; dorsal area clothed with short, strong spines. Saccus broad. Aedeagus rather short; cornutus a larger spine. ♀ as in Figs. 28 and 34. Eighth abdominal sternum with a pair of small semicircular processes situated behind ostium. Bursa copulatrix membranous throughout. Signum large.

*Material examined.* Honsyū—1 ♀, Tokyo, 27. VII. 1920 (S. ISSIKI); 2 ♀, Aiti, Tita, emerged 3–5. III. 1980 (Y. ARITA), reared from larvae feeding on decayed tree; 1 ♀, Mie, Owase, emerged 5. VII. 1980 (Y. ARITA), reared from larva feeding on decayed bark of *Pinus densiflora*; 3 ♂, 1 ♀, Nara, Mt. Kasugayama, 29 VII. 1976 (H. KUROKO); 1 ♀, Osaka, Mt. Makiosan, 13. VIII. 1979 (K. YASUDA); 1 ♂; 3 ♀, Tottori, Aimi, emerged 12–25. VI. 1992 (T. KADOHARA), reared from larvae feeding on decayed bark of *Prunus mume*; Tusima Islands—2 ♀, Kamitusima, Syuri, 6. VIII. 1983 (T. SAITO); 1 ♀, Mine, Obosiyama, 5. VIII. 1983 (T. SAITO); Sikoku—4 ♂, Ehime, Otide, 23. VII. 1959 (M. OKADA); Kyûsyû—1 ♂, Hukuoka, Kitakyûsyû, 28. VII. 1965 (T. KAWAMURA); 1 ♀, same data, except 30. VII. 1966.

*Distribution.* Japan (Honsyû, Tusima Is., Sikoku, Kyûsyû).

*Ecological notes.* Larvae feed on the following: bark of *Pinus densiflora* SIEBOLD et ZUCCARINI (Pinaceae), decayed bark of *Prunus mume* SIEBOLD et ZUCCARINI (Rosaceae), canker of *Sophora japonica* L. (Leguminaceae) caused by rust fungus, and decayed tree of an unidentified plants. Univoltine. Adults emerge from June. Hibernating in the larval stage.

*Remarks.* This species is easily recognized by the colour and markings of the forewing.

### *Erechthias zebrina* (BUTLER)

(Figs. 4, 11, 18, 22)

*Arygresthia zebrina* BUTLER, 1881: 403.

*Ereunetis zebrina* (BUTLER); WALSINGHAM, 1907: 715, pl. 25, fig. 16.

*Erechthias zebrina* (BUTLER); MEYRICK, 1915: 253; FLETCHER, 1921: 178; MEYRICK, 1928: 505; MEYRICK, 1930: 322; VIETTE, 1949: 316; CLARKE, 1971: 196, figs. 152, 153 a–c, pl. 27, fig. h; ZIMMERMAN, 1978: figs. 192, 194, 195; ROBINSON, 1983: 307; CLARKE, 1986: 370, figs. 258 a–c, 316 h; ROBINSON & NIELSEN, 1993: 310, fig. 650.

*Ereunetis lanceolana* WALSINGHAM, 1897: 158.

*Ereunetis xenica* MEYRICK, 1911: 301.

*Erechthias caustophara* TURNER, 1923: 186.

*Tinexotaxa travestita* GOZMÁNY, 1968: 306, figs. 8–11.

♂. 8 mm. Labial palpus without spreading tuft. Forewing (Figs. 4, 11) 11-veined; ground-colour white, more or less suffused with dark grey; markings dark fuscous. Hindwing with a distinct tuft of short ochreous hair-like scales at basal quarter beneath Sc+R<sub>1</sub>; M<sub>1</sub> and M<sub>2</sub> very weakly preserved. Male abdomen without hair pencil between second and third segments (Fig. 18); coremata absent.

Genitalia: ♂ as in Fig. 22. Valva tapering, gently curved, with no spines. Sac-

cus very narrow in anterior half. Aedeagus long, slender, and twice as long as valva; cornuti as in Fig. 22 a. ♀ unavailable for study.

*Material examined.* 2 ♂, Kyûsyû, Yakusima Is., Nakama, 20. IX. 1978 (S. MORIUTI); 1 ♂, Ryukyus, Amami-Syotô Islands., Amami-Ôsaima Is., Nisinakama, 5. X. 1965 (H. KUROKO), 1 ♂, Ogasawara Islands, Titizima Is., Oomura, 30. V. 1971 (S. ITO).

*Distribution.* Pantropical, widely distributed; new to the fauna of Japan (Yakusima Is., Ryukyus, Ogasawara Is.).

*Hosts.* Fruits of *Cola acuminata* SCHOTT et ENDLICHER (Sterculiaceae), and of false cotton; galls of *Lophira alata* BANKS; dry or decaying vegetable matter (CLARKE, 1986).

*Remarks.* No female specimens are available for the present study. The female genitalia were illustrated by some authors (e.g., CLARKE, 1971; ZIMMERMAN, 1978). The presence of a tuft of hair-like scales on the male hindwing and the simple valva of the male genitalia are characteristic of this small species.

MEYRICK (1915) regarded this widely distributed species as "doubtless a refuse-feeder and artificially spread."

### *Erechthias iolaxa* (MEYRICK), comb. n.

(Fig. 5)

*Decadarchis iolaxa* MEYRICK, 1936: 621; MORIUTI, 1982: 170, pl. 233, fig. 3.

♂. 7 mm. Palpus tufted beneath. Forewing predominantly ochreous-white; second discal stigma conspicuous, black; termen broadly suffused with dark brown.

*Material examined.* 1 ♂, labelled "Tokyo/18. VII. 1932/S. Issiki," "*Decadarchis iolaxa*/Meyr. n."

*Distribution.* Japan (Honsyû).

*Host.* Unknown.

*Remarks.* The only specimen we have seen is the above male. Unfortunately, it is in mouldy and defective condition, and the abdomen is missing, as shown in Fig. 5. Judging from only the superficial appearance, we, though with some hesitation, placed this species in the genus *Erechthias*.

### *Comodica* MEYRICK

*Comodica* MEYRICK, 1880: 254. Type species: *Comodica tetracella* MEYRICK, 1880.

*Blaetollemma* CLARKE, 1971: 219. Type species: *Blaetollemma coarctata* CLARKE, 1971.

The generic definition was given by ROBINSON & NIELSEN (1993). This genus is characterized by the presence of a pair of hair pencils on the second abdominal sternum in the male (Fig. 19); the apodemes on the sternum are very short in both sexes (Figs. 19, 20). ROBINSON & NIELSEN (1993) pointed out that in all males of *Comodica* the antenna has a distinct subbasal notch with internal spines, as one of

the distinguishing characters. In Japanese species, however, the male antenna is not modified (Fig. 15). On the basis of the second abdominal sternal characters, we placed them in *Comodica*.

*Comodica* MEYRICK is recorded from Japan for the first times.

*Comodica saitoi* sp. n.

(Figs. 6, 12, 13, 15, 25, 29, 35)

♂♀. 10–11.5 mm. Head white, with crown somewhat mixed with grey; face brown. Antenna very pale grey, obscurely annulated with brownish-grey; scape white. Labial palpus without spreading tuft; brownish exteriorly and greyish-white interiorly; tip largely ochreous. Thorax white, slightly mixed with ochre. Legs pale sandy; fore femur nearly wholly suffused with dark grey; fore tibia and tarsus mixed with blackish-brown; mid tibia banded with blackish-brown on lateral and dorsal sides before and beyond middle; mid and hind tarsi marked dorsally with blackish-brown at base of each segment. Forewing (Figs. 6, 12, 13) 12-veined;  $R_1$  strongly curved upwards and approaching towards costa at middle in male and not curved in female;  $R_4$  and  $R_5$  vestigially preserved basally and very short-staked in both sexes; whitish, largely suffused with pale brown; markings nearly black; a longitudinal streak from base of costa through costal third of wing breadth to apex; a very oblique streak from costa at middle and a similar one along costa on distal quarter, both running into median streak; a spot on dorsum just before base; two somewhat indistinct, very oblique streaks from dorsum at about one-fifth and about two-fifths, not reaching median streak; termen suffused on lower half; cilia nearly white, somewhat sprinkled with brown on dorsum, with a dark brown median line on costa including apex and with a brownish apical line throughout. Hindwing (Figs. 12, 13) with two frenular bristles in female; in male costal margin swollen before middle, but in female smooth; eight-veined; all veins separate; male with a distinct tuft of short ochreous hair-like scales before middle near costa, and female without such a tuft; light grey, a little darker apically; cilia concolorous. Abdomen without coremata in male; dark grey above, pale greyish-sandy beneath.

Genitalia: ♂ as in Fig. 25. Juxta with a pair of very small caudal precesses. Valva with stout basidorsal process, densely clothed with spines; distal margin rounded. Saccus elongate-triangular. Aedeagus slender and much longer than valva (17:10), with a single, somewhat twisted row of about 10 small teeth, except on basal sixth; cornuti as in Fig. 25 a. ♀ as in Figs. 29 and 35. Antrum well sclerotized. Ductus bursae heavily sclerotized. Signum typical of the genus.

*Material examined.* Holotype ♂, Ryukyus, Yaeyama-Rettô Islands, Iriomotezima Is., Ôhara, emerged 29. V. 1978 (T. SAITO), reared from larva under bark of *Bruguiera gymnorrhiza*, UOP. Paratypes: 1 ♀, same data with holotype, except emerged 22. V. 1978, UOP; 1 ♂, same data, except emerged 24. V. 1978, UOP; 1 ♀, same data, except emerged 25. V. 1978, UOP; 1 ♀, same data, except emerged 27.

V. 1978, UOP; 1 ♀, same data, except emerged 14. VI. 1978, UOP; 1 ♂, Yaeyama-Rettô Islands, Isigakizima Is., Mt. Bannadake, 17. I. 1981 (Y. ARITA), reared from larva feeding on decayed tree, UOP; 1 ♀, same data, except emerged 10. II. 1981, UOP; 1 ♀, same data, except emerged 18. II. 1981, UOP.

*Distribution.* Japan (Ryukyus).

*Ecological notes.* According to Dr. SAITO (oral communication), he collected the larvae living under bark of *Bruguiera gymnorhiza* (L.) LAMARK (Rhizophoraceae) on the 19th of December, 1977 on the island of Iriomotezima; from them the adults emerged from late in May, 1978. Dr. ARITA (oral com.) also collected the larvae feeding on decayed tree on the 17th November in 1980 on the island of Isigakizima; under laboratory conditions they emerged from the middle of January to the middle of February in 1981.

*Remarks.* This species is very closely allied to *C. contributa*; the discriminating characters are noted under the latter species.

*Etymology.* Named after the collector, Dr. Toshihisa SAITO, formerly with the Entomological Museum of Osaka Prefectural Minoo Park.

***Comodica contributa* (MEYRICK), comb. n.**

(Figs. 7, 19, 20, 26, 30, 36)

*Tinea contributa* MEYRICK, 1932: 209; ISSIKI, 1957: 16, pl. 2, fig. 44.

*Archinemapogon contributa* (MEYRICK); ZAGULAJEV, 1964: 368.

*Decadarchis contributa* (MEYRICK); ROBINSON, 1980: 141; MORIUTI, 1982: 170, pl. 2, fig. 8; YOSHIMATSU, 1992: 779, fig. 8.

♂♀. 10–14 mm. Illustrated in colour by ISSIKI (1957) and MORIUTI (1982). Externally very similar to *C. saitoi* sp. n. Head with crown pure white, not mixed with grey as in *saitoi*. Forewing with ground-colour whiter than that of *saitoi*. Second abdominal sternum as shown in Figs. 19 (♂) and 20 (♀). Coremata absent.

Genitalia: ♂ as in Fig. 26. Extremely similar to those of *saitoi*. Juxta with a pair of conspicuous caudal processes (Fig. 26 a). Valva with distal part nearly triangular. Saccus longer than in *saitoi*. Aedeagus remarkably longer than valva (2: 1), with a row of about 18 small teeth on apical two-thirds. ♀ as in Figs. 30 and 36. Much as in *saitoi* but differing evidently in having the distinctly longer ductus bursae.

*Material examined.* Honsyû—1 ♂, 4 ♀, Aiti, Tita, emerged 14. II.–15. III. 1980 (Y. ARITA), reared from larvae feeding on bark of decayed tree; 1 ♂, 2 ♀, Osaka, Minoo, 10–14. VII. 1979 (T. SAITO); 1 ♀, same locality, emerged 7. VII. 1980 (T. SAITO), reared from larva feeding on decayed tree; 1 ♂, 1 ♀, same locality, 10–12. VII. 1980 (T. SAITO); 1 ♀, same data, except 6. VIII. 1980; 1 ♀, same data, except 26. VII. 1982; 1 ♀, Osaka, Mihara, no specific date, 1979 (K. YASUDA); 1 ♂, Osaka, Mt. Makiosan, 23. VII. 1981 (K. YASUDA); 1 ♂, Osaka, Mt. Usitakistan, 6. VIII.

1992 (Y. S. BAE); 1 ♂, Osaka, Ozaki, emerged 20. VI. 1961 (T. SAITO), reared from larva feeding on decayed branch of *Alnus firma*; 1 ♀, Tottori, Kyûsyôzan, 8. VII. 1963 (M. TAKAHAMA); 1 ♂, Yamaguti, Simonososeki, 11. VII. 1959 (Y. ARITA); Sikoku—3 ♀, Kôti, Asizurimisaki, 14. VI. 1964 (S. MORIUTI); Kyûsyû—1 ♂, Hukuroka, Kitakyûsyû, 24. VII. 1965 (T. KAWAMURA).

*Distribution.* Japan (Honsyû, Sikoku, Kyûsyû).

*Ecological notes.* Hosts: decayed branch of *Alnus firma* SIEBOLD et ZUCCARINI (Betulaceae) (Moriuti, 1982); canker of *Sophora japonica* L. caused by rust fungus and bark of *Robinia pseudo-acacia* L. (Leguminosae) (YOSHIMATSU, 1992); and decayed tree of an unidentified plant. There is one generation a year. The adults emerge from early in summer. Hibernating in the larval stage.

*Remarks.* This species differs from the preceding species, to which it is closely related, in the characters described above.

Although this species has been recorded from Taiwan (e.g., ISSIKI, 1957), we omit that locality from the distribution, because we have not seen the Taiwanese specimen. It might be *C. saitoi*.

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